



## WORD PROBLEM INEQUALITIES

### LESSON 13

Jan 21-8:53 AM

#### Connect

### STEPS TO SOLVING WORD PROBLEMS

1. Use a variable to represent the unknown quantity.
2. Express any other unknown quantities in terms of this variable, if possible
3. Write an inequality, and solve it.
4. State the answer to the problem.
5. Check your answer by substituting in the problem

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#### Connect

### EXAMPLE 1:

Jake plans to board his dog while he is away on vacation.

Boarding House A charges \$90 plus \$5 per day.

Boarding House B charges \$100 plus \$4 per day.

For how many days must Jake board his dog for boarding house A to be less expensive than boarding house B?

Let  $x$  rep the # of days

$$A \rightarrow 90 + 5x$$

$$B \rightarrow 100 + 4x$$

$$90 + 5x < 100 + 4x$$

$$5x - 4x < 100 - 90$$

$$\boxed{x < 10}$$

Jake can board his dog for less than 10 days.

#### Things to Remember

Use a variable to represent the unknown quantity

Express any other unknown quantities in terms of this variable, if possible

Write an inequality, and solve it.

State the answer to the problem

Check your answer by substituting in the problem.

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#### Connect

### EXAMPLE 2:

A super-slide charges \$1.25 to rent a mat and \$0.75 per ride. Jason has \$10.25. How many rides can Jason go on?

Let  $x$  rep # of rides

$$0.75x + 1.25 \leq 10.25$$

$$0.75x \leq 10.25 - 1.25$$

$$\frac{0.75x}{0.75} \leq \frac{9}{0.75}$$

$$\boxed{x \leq 12}$$

Jason can take 12 rides.

#### Things to Remember

Use a variable to represent the unknown quantity

Express any other unknown quantities in terms of this variable, if possible

Write an inequality, and solve it.

State the answer to the problem

Check your answer by substituting in the problem.

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## Practice

## YOU TRY!

The cost of a prom is \$400 to rent a hall and \$30 per person for the meal. The prom committee has \$10 000. How many students can attend?

Let  $x$  rep the # of students.

$$30x + 400 \leq 10\,000$$

$$30x \leq 10\,000 - 400$$

$$\frac{30x}{30} \leq \frac{9\,600}{30}$$

$$x \leq 320$$

They can have 320 students.

## Things to Remember

Use a variable to represent the unknown quantity

Express any other unknown quantities in terms of this variable, if possible

Write an inequality, and solve it.

State the answer to the problem

Check your answer by substituting in the problem.

## Practice

## CLASSWORK

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